CS143 Database Systems Discussion Week 2

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Agenda

- Review of lecture materials

  - Relational models

  - Relational algebra

- Homework #1

- Project 1B

Review

- Relational Models

  - table-style model for data representation

  - table design is not easy

    - multiple factors involved: concise, no redundancy, data consistency

    - theory to learn later

  - E/R analysis - software engineering

Review

- Relational Algebra

    - Used to query databases to find out answers

    - Formal approach

        - Practical approach -> SQL

    - relation => relation

    - Set semantics: duplicates removed

        - SQL: bag semantics (performances)

Review

- Relational Algebra

  - select, project, rename

  - cross product, natural join, theta join

  - union, difference, intersect

  - division

- General advise: think of complement

Homework 1 Solution

More practice

- Class(dept, cnum, title)

- all departments that offer at least two classes?

More practice

- Class(dept, cnum, title)

- Enroll(sid, dept, cnum)

- all pairs of students who are taking at least one EE class in common, but not any common CS classes (return each pair once).

Project 1B

- MySQL uses SQL, however, not exactly.

- Tasks:

  - Create tables

  - Load data

  - Simple queries

  - Constraints

  - Web interface for query

Questions?